

SENATE BILL 2201

By Kyle

AN ACT to amend Tennessee Code Annotated, Title 68,  
Chapter 105, relative to blasting and explosives.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF TENNESSEE:

SECTION 1. Tennessee Code Annotated, Section 68-105-102, is amended by adding the following as new, appropriately designated subsections:

( ) "Airblast" means a sound pressure wave from a blast traveling through the atmosphere;

( ) "Blaster in charge" means the blaster who is designated for each blasting operation as the responsible party for all effects, including control and supervision, of the blasting activity;

( ) "Blasthole" means a hole drilled in rock or other material for the placement of explosives;

( ) "Blast site" means the area where explosive material is handled during loading of the blasthole, including fifty (50) feet in all directions from the perimeter formed by loaded holes.

SECTION 2. Tennessee Code Annotated, Section 68-105-103, is amended by deleting subsection (b) in its entirety and redesignating the following subsections accordingly.

SECTION 3. Tennessee Code Annotated, Section 68-105-104, is amended by deleting the section in its entirety and by substituting instead the following:

(a) In all blasting operations, except as hereinafter otherwise provided, the maximum ground vibration at any dwelling, public building, school, church, or commercial or institutional building adjacent to the blasting site shall not exceed the limitations specified in the following table:

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**TABLE 1****PEAK PARTICLE VELOCITY LIMITS**

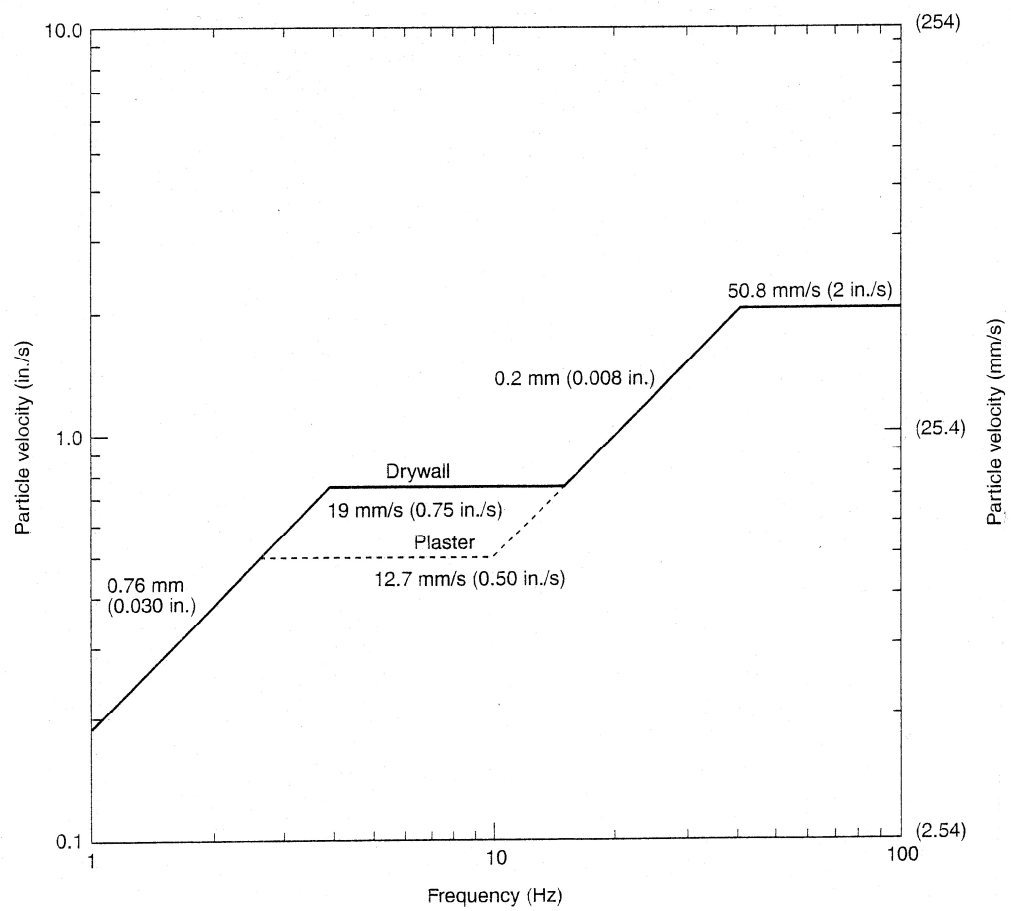
<b>Distance from blasting site</b>	<b>Maximum allowable peak particle velocity<sup>1</sup></b>
0 to 300 ft (91.4 m)	1.25 in/sec (31.75 mm/sec)
301 to 5000 ft (91.5 m to 1524 m)	1.00 in/sec (25.4 mm/sec)
5001 ft (1525 m) and beyond	0.75 in/sec (19 mm/sec)

<sup>1</sup> Peak particle velocity must be measured in three mutually perpendicular directions and the maximum allowable limits shall apply to each of these measurements.

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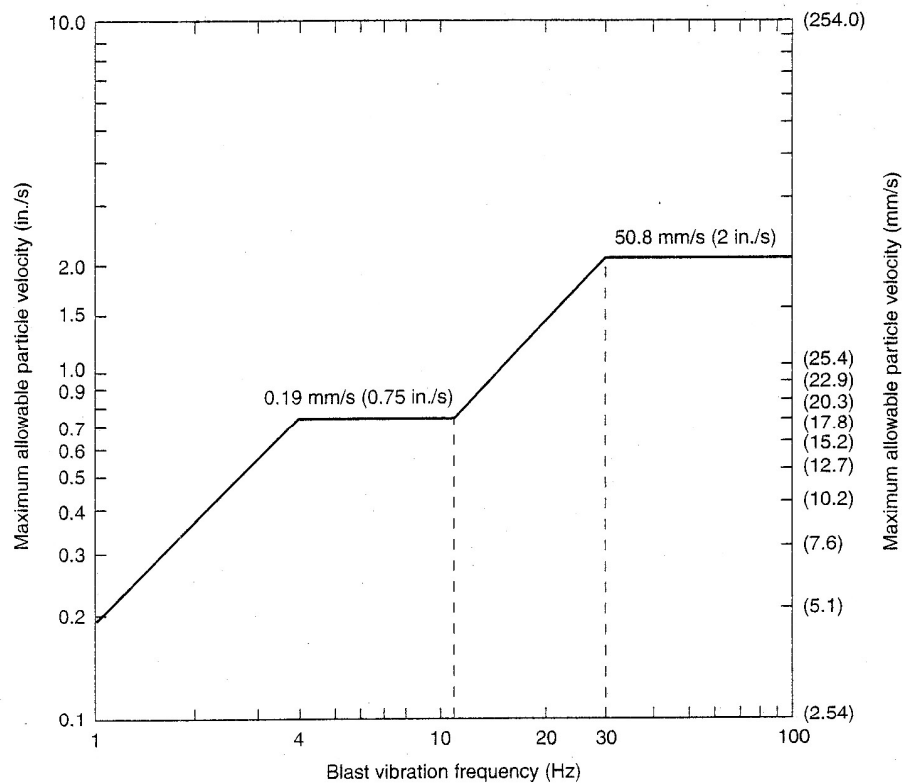
(b) In lieu of Table 1, a blaster in charge shall have the option to use the graphs shown in either Figure A or B to limit peak particle velocity based upon the frequency of the blast vibration. If either graph in Figure A or B is used to limit vibration levels, the methods for monitoring vibration and calculating frequency shall be approved by the department prior to being employed.

**Figure A**



**Frequency vs. particle velocity graph.**

**Figure B**



**Maximum allowable particle velocity vs. blast vibration frequency graph.**

(c) Unless a blaster in charge uses a seismograph to monitor a blast to ensure compliance with Table 1, Figure A, or Figure B, the operation shall comply with the scaled distance equations shown in Table 2.

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**TABLE 2**

**SCALED DISTANCE EQUATIONS**

<b>Distance from Blasting Site</b>	<b>Scaled Distance Equation</b>
0 to 300 ft (91.4 m)	$W \text{ (lbs)} = (d \text{ (ft)}/50)^2$ or $W \text{ (kg)} = (d \text{ (m)}/22.6)^2$
301 to 5000 ft (92 m to 1524 m)	$W \text{ (lbs)} = (d \text{ (ft)}/55)^2$ or $W \text{ (kg)} = (d \text{ (m)}/24.9)^2$
5001 ft (1524 m) and beyond	$W \text{ (lbs)} = (d \text{ (ft)}/65)^2$ or $W \text{ (kg)} = (d \text{ (m)}/29.4)^2$

**Key:**

**W** = The maximum weight of explosives in pounds (or kilograms) that can be detonated per delay interval of 8 milliseconds or greater.

**d** = The distance in feet (or meters) from the blast site to the nearest dwelling, public building, school, church, commercial, or institutional building not owned, leased, or contracted by the blasting operation, or on property where the owner has not given a written waiver to the blasting operation.

**Note:** To convert English Units of scaled distances (ft/lb<sup>2</sup>) to metric units (m/kg<sup>2</sup>) divide by a factor of 2.21.

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(d) Airblast at the location of any dwelling, public building, school, church, or commercial or institutional building that is not owned or leased by the person engaged in the blasting operation, or on property for which the owner has not provided a written waiver to the person engaged in the blasting operation, shall not exceed the maximum limits specified in the following table:

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**TABLE 3**

**AIRBLAST LIMITS**

<b>Lower Frequency of Measuring System in Hz (+ or - 3 decibels)</b>		<b>Measurement Level in Decibels</b>
0.1 Hz or Lower	Flat Response*	134 Peak
2 Hz or Lower	Flat Response	133 Peak
6 Hz or Lower	Flat Response	129 Peak
C-Weighted	Slow Response*	105 Peak dBC

\*Only where approved by the department

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SECTION 4. Tennessee Code Annotated, Section 68-105-105, is amended by deleting the section in its entirety.

SECTION 5. Tennessee Code Annotated, Section 68-105-107, is amended by adding the following as a new, appropriately designated subsection:

( ) A drilling log shall be maintained by the blaster in charge in all blasting operations to allow the blaster in charge to take the appropriate action if an anomaly is noted. The blaster in charge must have this drilling log available before the loading process begins for each blast or shot. The drilling log shall be retained by the blaster in charge at least three (3) years and shall be available for inspection by the department and shall contain the following minimum data:

- (1) name of driller;
- (2) project location and date;
- (3) diameter, depth, angle, and number of holes;
- (4) any anomalous or unusual conditions encountered during drilling including, but not limited to, location of voids, competency of rock, loss of air and/or lack of drill cuttings; and

(5) signature of both driller and blaster in charge.

( ) Any blaster in charge violating this section is subject to the penalties established in T.C.A §68-105-109.

SECTION 6. Tennessee Code Annotated, Section 68-105-115, is amended by deleting the section in its entirety and substituting instead the following language:

Notwithstanding any other law to the contrary, a registered blaster or limited blaster who is not a full time employee of a registered firm shall have a current liability insurance policy, which includes blasting coverage, in the minimum amount of one million dollars (\$1,000,000) during all blasting operations for the use and benefit of any person who may be aggrieved by a wrongful act or omission of the blaster.

SECTION 7. Tennessee Code Annotated, Section 68-105-120, is amended by adding the following language as a new, appropriately designated subsection:

( ) Personnel of law enforcement entities, so long as these persons are acting within their official capacities and in the performance of their official duties;

SECTION 8. For purposes of effectuating the intent of this act, the state fire marshal is authorized to promulgate rules by public necessity pursuant to the Uniform Administrative Procedures Act, compiled in title 4, chapter 5.

SECTION 9. This act shall take effect upon becoming a law for the purposes of rulemaking and shall take effect on January 1, 2008, for all other purposes, the public welfare requiring it.